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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/788,472 | 03/01/2004 | Karl Weber | Q79527 | 7541 |
| 23373 | 7590 | 04/30/2008 | EXAMINER | |
| SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | ZHOU, YONG | |
| | | ART UNIT | PAPER NUMBER | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/788,472 | WEBER, KARL | |
| | Examiner | Art Unit | |
| | Yong Zhou | 2619 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 3/3/2008.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-11 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1 and 9, they contain the limitation “in a third phase during the transmission cycle, sending at least one of real-time data telegrams and non-real-time data telegrams while suppressing the transmission of those of the non-real-time data telegrams for which the transmission cannot be concluded during the third phase”. This was not described in the original specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3 and 5-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Krause (US Patent Application No. 2002/0064157).

Regarding claims 1 and 9, Krause teaches a method and switch router (system and method, Abstract, lines 1-3) for data transmission over a network, comprising:

in a first phase during a transmission cycle, sending solely real-time data telegrams (Fig. 2, first (left) set of blocks #16 for real-time data telegrams immediately following blocks #15) over the network;

in a second phase during the transmission cycle, sending at least one of real-time data telegrams (Fig. 2, last (right) blocks #16 for real-time data telegrams before the non-real-time data section #14) and non-real-time data telegrams (Fig. 2, section 14 for non-real-time data telegrams, and [0034], right col., lines 44-47, wherein the periods of sections 13 and 14 are adjustable giving higher priority to the real-time data telegrams) over the network; and

in a third phase during the transmission cycle, sending at least one of real-time data telegrams and non-real-time data telegrams while suppressing the transmission of those of the non-real-time data telegrams for which the transmission cannot be concluded during the third phase ([0034], right col., lines 23-31, and Fig. 2, #15, wherein blocks #15 following the non-real-time section #14 in previous cycle are served for transmitting data telegrams for the organization of the data transmission. For example, the data telegrams transmitted in this phase can be for timing synchronization, i.e., real-

time critical; or, they can be data for recognizing the topology of the network, i.e., non real-time critical; since the blocks #15 are served, no other long non-real-time data is allowed to be sent),

wherein the third phase is followed by a new transmission cycle with a new first phase, during which solely further real-time data telegrams are sent (Fig. 2, # 15, followed by #16 , and [0034], right col., lines 23-26, wherein transmission of data telegrams in the reserved blocks #15 are before the transmission of the actual real-time critical data.).

Regarding claims 2 and 10, Krause further teaches that the network comprises an Ethernet ([0008], lines 2-3).

Regarding claims 3 and 11, Krause further teaches that said sending comprises forwarding (p3, left col., line 3) the data telegrams.

Regarding claim 5, Krause further teaches that short filler telegrams are sent in the third phase, and transmission of the short filler telegrams is concluded before the new first phase is started (Fig. 2, # 15, followed by #16, and [0034], right col., lines 23-26).

Regarding claim 6, Krause further teaches performing a time synchronization of the switching routers ([0012], lines 14-15).

Regarding claim 7, Krause further teaches that the time synchronization is performed with a calculation of a delay between two nodes of the network in combination with a synchronization signal ([0012], lines 14-15, and 25-26; it is inherent

that the delay between two nodes must also be calculated in order to maintain precise data transfer times).

Regarding claim 8, Krause further teaches that the network is designed as a line (it is a common knowledge in the art that the network can be extremely simplified as a line).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krause in view of Decker et al. (US Patent Application No. 2001/0038610).

Regarding claim 4, Krause teaches all the limitations of claim 1.

Krause does not specifically teach that the switching router has at least four transmission priorities, although priorities are mentioned, see [0038], lines 30-33.

Decker et al. teach that the switching router has at least four transmission priorities (quality of services classes, [0022], lines 1-5).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Krause invention to include at least four transmission priorities as taught by Decker et al. to achieve predictable results of scheduling transmission of real-time and non-real-time data.

Response to Arguments

7. Applicant's arguments, filed March 3, 2008 have been fully considered but they are not persuasive.

Amended claims 1 and 9 recite the limitation "in a third phase during the transmission cycle, sending at least one of real-time data telegrams and non-real-time data telegrams while suppressing the transmission of those of the non-real-time data telegrams for which the transmission cannot be concluded during the third phase". This was not described in the original specification. It was only stated in the original disclosure that in a third phase (3), the transmission of long non-real-time telegrams is suppressed. Short filler telegrams can be sent during the phase (s), see Abstract, p4 [012], p6, [016], and p9, [020].

In Applicant's response, Applicant argues that the transmission of non-real time data in the third phase is completely prohibited in Krause, even short non-real-time data whose transmission can be concluded in this phase. In response, the Examiner respectively disagrees. The blocks #15 (equivalent to the claimed third phase) following the non-real-time section #14 in previous cycle are served for transmitting data telegrams for the organization of the data transmission. For example, the data telegrams transmitted in this phase can be for timing synchronization, i.e., real-time critical; or, they can be data for recognizing the topology of the network, i.e., non real-time critical (see [0034], right col., lines 23-31, and Fig. 2, #15). It is just that no other

long non-real-time data is allowed to be sent since the blocks #15 are served. This is what the original specification and claims recite.

Therefore, in view of above reasons, the Examiner maintains the art rejections.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Zhou whose telephone number is (571)270-3451. The examiner can normally be reached on Monday - Friday 8:00am - 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag G. Shah can be reached on (571) 272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yong Zhou

April 23, 2008

**/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2619**